REMARKS/ARGUMENTS

Summary of Rejections

Claims 1-3 and 5-26 were pending at the time of this Office Action.

Claim 1 was rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-3 and 12 were rejected under 35 USC § 103(a) over *Huang I* in view of *Green*.

Claims 5-11 and 22-26 were rejected under 35 USC § 103(a) over *Huang I* in view of *Green* and *Cooperman*.

Claims 13-16 were rejected under 35 USC § 103(a) over *Huang I* in view of *Green* and *Widjaja*.

Claims 17 and 18 were rejected under 35 USC § 103(a) over *Huang II* in view of *Green*.

Claims 19-21 were rejected under 35 USC § 103(a) over *Huang II* in view of *Green* and *Cooperman*.

Summary of Response

Claim 1, 5, 12, and 17 are amended.

Claims 7, 16, and 21 are canceled.

Claims 28 - 30 are new.

In response to Applicant's RCE, the Examiner asserts new § 103(a) rejections of the claims under the same two primary references, namely *Huang I* (U.S. 4,516,238) and *Huang II* (U.S. 4,542,497), but using a new secondary reference, *Green* (U.S. 5,687,324), to support his rejections. In response, the Applicant points out new reasons why *Huang I*, *Huang II*, and *Green* do not teach or suggest the limitations of the independent claims.

Summary of Pending Claims

Claims 1-3, 5, 6, 8-15, 17-20, 22-26, and 28-30 are currently pending following this response.

Applicant hereby requests further examination and reconsideration of the presently claimed application.

Claim Rejections – 35 USC § 112

Claim 1 stands rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention. More specifically, the Examiner stated that claim 1 was indefinite because the limitation "wherein the cells in the buffer consist of cells with a non-unique destination address" in item (d) has an insufficient antecedent basis in the claim. The Applicant has amended claim 1 to overcome the rejection.

Claims Rejections – 35 USC § 103

Claims 1-3 and 12 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang I* (U.S. 4,516,238) in view of *Green* (U.S. 5,687,324). Claims 5-11 and 22-26 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang I* in view of *Green* and *Cooperman* (U.S. 5,862,128). Claims 13-16 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang I* in view of *Green* and *Widjaja* (U.S. 5,440,553). Claims 17 and 18 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang II* (U.S. 4,542,497) in view of *Green*. Claims 19-21 stand rejected under 35 USC § 103(a) as being unpatentable over *Huang II* in view of *Green* and *Cooperman*. Claims 7, 16, and 21 are canceled, claims 2, 3, 5, 6, 8-11, 22-26, and 28 depend on claim 1, claims 13-15 and 29 depend on claim 12, and claims 18-20 and 30 depend on claim 17. Thus, claims 1-3, 5, 6, 8-15, 17-20, 22-26, and 28-30 stand or

fall on the application of *Huang I* and *Green* to independent claims 1 and 12 and *Huang II* and *Green* to independent claim 17.

The Examiner's obviousness rejections are not well founded because the Examiner has not established a *prima facie* case of obviousness. The requirements for establishing a *prima facie* case of obviousness are well established:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. MPEP § 2142 citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Similarly, the fact that the Examiner has the burden of proof with respect to the elements of the *prima facie* case of obviousness is also well defined:

> The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." MPEP § 2142 quoting *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Claim 7 has been incorporated into amended claim 1, which now reads:

> 1. A switching system for a telecommunications network, comprising:
> a) a first stage having input and output sides, said output side concentrated relative to said input side;
> b) a second stage having input and output sides, said input side of said second stage coupled to said output side of said first stage and said output side of said second stage being comprised of a plurality of outputs, wherein said second stage is a non-recirculating sort and trap stage;
> c) for a plurality of cells arriving, at said second stage, in a first time slot, said second stage placing each cell having a unique destination address

on a selected one of said plurality of outputs and aging each cell having a non-unique destination address; and

d) a buffer coupled to said second stage in which said cells having non-unique destination addresses for said first time slot are aged until a next time slot.

Claims 12 and 17 have been amended to include similar limitations. The Examiner cannot meet his burden of presenting the *prima facie* case of obviousness with regards to the third prong of the obviousness test because the combination of *Huang I* and *Green* and the combination of *Huang II* and *Green* fail to teach or suggest all of the claimed limitations.

The Examiner cannot present a *prima facie* case of obviousness as to the pending claims because the combination of *Huang I* and *Green* and the combination of *Huang II* and *Green* (if either is proper and without conceding such) do not teach or suggest the non-recirculating sort and trap stage. Amended claim 1 includes the following limitation: "a buffer coupled to said second stage in which said cells having non-unique destination addresses for said first time slot are aged until a next time slot." Claims 12 and 17 recite similar limitations. As is well known in the art, recirculating is the process by which a cell is recycled through the sort and trap stages in a switching system when the cell has the same destination address as another cell in the same time slot. In other words, a recirculating sort and trap stage is one in which a cell with a non-unique destination address makes more than one pass through the sort and trap stages before being routed to the destination address. In contrast, a non-recirculating sort and trap stage does not recycle any cells. In a non-recirculating sort and trap stage, each cell makes only a single pass through the sort and trap stages. *Huang I* and *Huang II* are not cited to teach a non-recirculating sort and trap stage, and rightfully so because *Huang I* and *Huang II* completely fail to address the issue of non-unique destination addresses, and thus cannot teach or suggest a trap stage, recirculating or otherwise. Instead, the Examiner cites *Green* to teach the non-

recirculating sort and trap stage. As explained below, *Green* also fails to teach or suggest the non-recirculating sort and trap stage.

Green's background section fails to teach or suggest the non-recirculating sort and trap stage. The Examiner cites *Green's* background section, specifically col. 2, lines 25-35, to teach that the second stage is a non-recirculating sort and trap stage. However, the cited portion of *Green* teaches a recirculating sort and trap stage that ages non-unique cells via a recirculation of cells with non-unique addresses. Specifically and with reference to *Green's* FIG. 2, cells from *Green's* multicast network 38 are fed to the output network 42, where the contention resolving mechanism feeds back any non-unique cells to the feedback network 46 via the feedback buffer 44. *See Green*, col. 2, lines 27-41. *Green* expressly teaches that the cells go to the output network 42 prior to being transferred to the feedback buffer 44 in col. 2, lines 29-37. During his next cycle, any cells in the feedback network are again fed to the output network with a higher priority than the cells supplied by the multicast network. *See Green*, col. 2, lines 32-41. Any contentious cells are again fed back to the feedback network to be fed to the output network on the next clock cycle. This pattern repeats until any cells with non-unique addresses are passed through the output network to the output buffer. Thus, in *Green's* background system, the cells with non-unique addresses are not aged in the second stage, but rather are recirculated through the feedback network such that the recirculated cell's priority is increased the next time it is fed to the output network. Such a system is not the non-recirculating sort and trap stage recited in the independent claims.

The body of *Green's* disclosure does not make up for the shortcomings in his background section. *Green*'s disclosure describes a system that is similar to his background system, but with the addition of a rotator. With reference to *Green's* FIG. 5, the input cells are processed through

the input network 360 and the multicast network 380, and then are stored in a temporary buffer 500. *See Green*, col. 5, lines 27-47. During a given clock cycle, any cells held in the feedback network 460 are fed to the top of the output network 420 and any remaining output network inputs are filled using cells from the temporary buffer 500 via the rotator 520. *See Green*, col. 5, line 48 through col. 6, line 6. The output network has a contention resolution mechanism that sends all non-unique cells to the feedback network, where they are returned on the next cycle. *See Green*, col. 6, lines 7-14. *Green* states that "those cells that cannot pass to the output ports due to contention, are fed back to the feedback buffer for transmitting during the next cycle." *Green*, col. 6, lines 11-14. Any cell that passes through the multicast network, temporary buffer, and rotator that has a non-unique address will be fed back to the feedback network and forced to pass through the feedback buffer and feedback sorting network before being allowed to pass through the output network to the dedicated output queue. As a result, a cell with a non-unique address will have passed through more than one trap and sorting network prior to being sent to the appropriate output. Thus, *Green*'s feedback network cannot be called a non-recirculating sort and trap stage.

Both *Green's* background and *Green's* disclosure teach a system with a recirculating sort and trap stage because cells with non-unique addresses may pass through the feedback network more than twice. The example presented in *Green*, col. 6, lines 39-67 may be used to illustrate this point. In the example, the feedback network starts with three cells at the beginning of a cycle that are sent to the output network, which may receive up to eight inputs. In the example, the remaining five inputs are supplied by the rotator. If in this example, the three feedback inputs, FQ2, FQ5, and FQ8, are competing for the same output address, then only FQ2 will be allowed to pass through the output network in the current cycle. Upon feeding back FQ5 and

FQ8 to the feedback network, they will be sent back to the top of the output network on the next cycle. During that cycle, only FQ5 will be allowed to pass through the output network and FQ8 will be fed back to the feedback network. Upon a further cycle, FQ8 will be allowed to pass through the output network as it will have the highest priority for its address in the output network inputs. In this example, FQ5 and FQ8 each recirculated through the feedback network with FQ8 passing through at least three times. Following *Green*'s processing method, if N inputs were sent to the output network contending for the same address (therefore N-1 have non-unique addresses) in a single clock cycle in which no inputs were supplied by the feedback network, then the N^{th} input would recirculate through the feedback network N-1 times prior to passing through the output network. Thus, *Green*'s second stage cannot be said to be a non-recirculating sort and trap stage.

As discussed above, both *Green's* background and disclosure teach a switching assembly with a recirculating sort and trap stage. In contrast, the pending claims recite the limitation of a switching assembly with a non-recirculating sort and trap stage. Because the combination of *Huang I* and *Green* and the combination of *Huang II* and *Green* do not teach a non-recirculating sort and trap stage, the cited prior art does not teach or suggest all of the claimed limitations and the Examiner has failed to meet the burden of presenting a *prima facie* case of obviousness with respect to independent claims 1, 12 and 17.

For the reasons described above, independent claims 1, 12, and 17 are allowable over the cited prior art. Claims 2, 3, 5, 6, 8-11, 13-15, 18-20, 22-26, and 28-30 are allowable because they depend on allowable independent claims. Thus, all of the claims are allowable over the cited prior art.

CONCLUSION

Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections is respectfully requested by Applicant. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated June 14, 2006 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account No. 21-0765, Sprint. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,
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Date: August 21, 2006

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